UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,878	07/28/2003	Zhi Heng	9896-000007	3895

27572   7590   02/09/2007

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EXAMINER
CHEEMA, UMAR

ART UNIT	PAPER NUMBER
2109	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

PTOL-90A (Rev. 10/06)

	Application No.	Applicant(s)
Office Action Summary	10/628,878	HENG, ZHI
	Examiner	Art Unit	
	Umar Cheema	2109	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>28 July 2003</u>.

2a)☐ This action is **FINAL.** 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle,* 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>*1-10*</u> is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>*1-10*</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>28 July 2003</u> is/are: a)☐ accepted or b)☒ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☒ All b)☐ Some * c)☐ None of:

   1.☒ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

1.   The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "**core edge layer network, Edge Service Router (ESR), and three-dimensional linking-list**" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

2.   Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New

Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

the applicant will be notified and informed of any required corrective action in the next

Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and.
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4.   The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating
obviousness or nonobviousness.

5.   **Claims 1-10** are rejected under 35 U.S.C. 103(a) as being unpatentable over

Ciscon et al (US PGPUB 2002/0004827) in further view of Chen et al (US PGPUB

2005/0021802).

6.   Regarding **claim 1**, Ciscon et al teach a multi-layer user management (title,

abstract, par. 0003) method for multicasting proxy, comprising:

(1) dividing a user management for multicasting groups into three layers

(abstract, par. 0003): management at an interface layer for controlling multicasting

characteristics corresponding to interfaces (abstract, par. 0014), management at a data

link layer (fig. 2 (224)) for controlling multicasting characteristics corresponding to data

links and management at user layer (abstract, fig 1), for controlling multicasting

characteristics corresponding to particular users, and at each layer, setting control

blocks that are respectively comprised of multicasting characteristic data

corresponding to said each layer (abstract, par. 0003, 0013,0014);

(2) establishing a data relationship among the three layers of control blocks (par.

0073, fig. 4); and

(3) managing users of the multicasting groups through the data relationship

among the three layers of control blocks (abstract, fig. 3-4).

Ciscon et al do not teach management system including **multicasting proxy** in

their disclosure.

However in the same field of endeavor, Chen et al teach a multicasting relay

system for a use in a wide area network, including an input receptive of multicasting

data specifying a multicasting channel having a multicasting address. For their system

they include a proxy election module to elect a multicasting server proxy (title, abstract,

par. 0004).

Therefore, it would have been obvious to one of ordinary skill in the art at the

time of the invention to combine the teaching of Cisco et al into the system of Chen et al

for multi-layer user management system for multicasting server proxy. It is true

because proxy server is designed to provide extensible firewall and network security.

7.   Regarding **claim 2**, Ciscon et al teach the method of Claim 1, wherein said

controlling multicasting characteristics corresponding to interfaces includes (par. 0014):

judging whether to allow multicasting applications at an interface, judging whether to

allow multicasting applications at a user side or a network side, judging whether to allow

tying multicasting resources or multicasting groups, limiting the number of members of a

multicasting group or limiting the number of multicasting groups (par. 0026,0085, fig. 4).

(Note: Ciscon et al introduce the Network Controller which may use MPLS to a network

layer or any other OSI (seven layer model) layer for controlling, determining, and

managing data packets for multicasting (par. 0085)).

8.   Regarding **claim 3**, Ciscon et al teach the method of Claim 1, wherein said

controlling multicasting characteristics corresponding to data links is limiting the number

of members of a multicasting group when employing a core edge layer network device

such as an Edge Service Router (ESR) [par. 0039,0040].

9.   Regarding **claim 4**, Ciscon et al teach the method of Claim 1, wherein said

controlling multicasting characteristics corresponding to data links is forwarding only

one multicasting packet for all members of the same multicasting group at the same

data link when forwarding data (par. 0036, par. 0038).

10.   Regarding **claim 5**, Ciscon et al teach the method of Claim 1, wherein the data

relationship is established through a linking-list structure or a relational database

structure (par. 0036).

11.   Regarding **claim 6**, Ciscon et al teach the method of Claim 1, wherein the data

relationship is established through a three-dimensional linking-list data structure which

links each control block with linking-lists or arrays; the three dimensions of the three-

dimensional linking-list data structure comprise data link including interface, multicasting

group and user IP (par. 0038, 0039, 0040).

12.   Regarding **claim 7**, combination of Ciscon et al and Chen et al teach the method

of Claim 1, wherein managing the users of the multicasting groups is managing the

user's joining or leaving a multicasting group (Chen: par. 0024), further comprising:

finding a certain interface layer control block according to data structure of an interface

of net (IFNET) having received a multicasting packet (Ciscon: par. 0056); then judging

multicasting characteristics of the multicasting group which are defined in the found

interface layer control block to determine whether to continue the successive

processing; if so, performing the next steps, otherwise ending the processing (Chen:

par. 0024, fig. 6);

finding a certain data link layer control block according to the data relationship between

data link layer control blocks and said interface layer control block (Chen: par.0024, fig.

6); then judging multicasting characteristics corresponding to data links of the

multicasting packet to determine whether to continue the successive processing; if so,

performing the next step, otherwise ending the processing (Chen: par. 0024, fig. 6); and

finding a certain user layer control block according to a multicasting group IP and user

attributes; then adding, deleting or modifying corresponding user information in the user

layer control block (Chen: par. 0024, 0025, fig 6-7).

13.   Regarding **claim 8**, Chen et al. teach the method of Claim 7, further comprising:

if no proper data link control block is found when finding a certain data link control block,

adding a new data link layer control block at the data link (par. 0024, fig 6); and

establishing the data relationship among interface layer control blocks, user layer

control blocks and the new data link layer control block (fig. 6).

14.   Regarding **claim 9**,Ciscon et al teach the method of Claim 1, wherein managing

the users of the multicasting groups is forwarding control, further comprising: making

data link layer devices attend multicasting management with device cluster control

technique (Ciscon: par. 0056, fig. 4).

15.   Regarding **claim 10**, Chen et al teach the method of Claim 1, wherein managing

the users of the multicasting groups is flow charging control (fig. 6-7), further

comprising: recording the flow of multicasting packets having been forwarded with a

device forwarding program and charging the user who has received said multicasting

packets (par. 0024, fig. 6).

Conclusion

16.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. French et al. teach a communication network management

system for integrating two network management systems working together in a

client/server management to provide an integrated view of a multi-layer, multi-
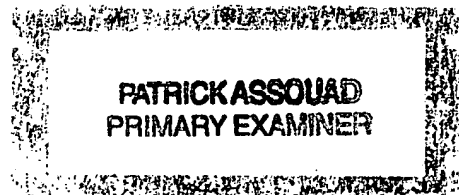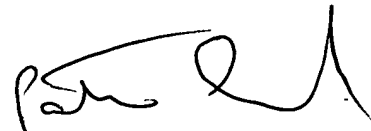
technology network.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Umar Cheema whose telephone number is 571-272-

0233. The examiner can normally be reached on M-F 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Patrick Assouad can be reached on 571-272-2210. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

17.   Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

uc

PATRICK ASSOUAD
PRIMARY EXAMINER

US 10/628,878
Claim Tree

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Ciscon et al. #
Chen et al.   ~